

A photograph of two healthcare professionals, a man and a woman, both wearing blue scrubs and stethoscopes, sitting at a desk in a clinical setting. They are looking at a computer monitor that displays a simulation interface. The man is pointing at the screen while the woman looks on. The background shows a typical hospital or clinic environment with a door and a framed picture on the wall.

**TheraSim
Global
Health**

INNOVATIVE:
The only interactive
clinical simulator

ENGAGING:
3x the industry
average completion
rate

MEASURABLE:
Collect Vital Clinical
Performance Metrics

Simulation Makes It Real

TheraSim™

Reach More, Teach More, Save More.

TheraSim Global Health Clinical Capacity Development Project



TheraSim™

Reach More. Teach More. Save More.

**A Global Health Training and Information Management
Infrastructure project for Resource Limited Settings**

*David D. Hadden, CEO
Jonathan Estes, VP International Development,
Dr. Ian Sanne, Chair Clinical Advisory Panel*





You can only *change*
what you can *measure*

Kirkpatrick Scale

of training measurement

	evaluation type (what is measured)	evaluation description and characteristics	examples of evaluation tools and methods	relevance and practicability
1	reaction	<ul style="list-style-type: none"> • reaction evaluation is how the delegates felt about the training or learning experience 	<ul style="list-style-type: none"> • eg., 'happy sheets', feedback forms • also verbal reaction, post-training surveys or questionnaires 	<ul style="list-style-type: none"> • Quick easy to obtain • not expensive to gather or to analyze • Measures perception
2	learning	<ul style="list-style-type: none"> • learning evaluation is the measurement of the increase in knowledge - before and after 	<ul style="list-style-type: none"> • typically assessments or tests before and after the training • interview or observation can also be used 	<ul style="list-style-type: none"> • relatively simple to set up; clear-cut for quantifiable skills • Measures Retention
3	behavior	<ul style="list-style-type: none"> • behavior evaluation is the extent of applied learning back on the job - implementation 	<ul style="list-style-type: none"> • observation and interview over time are required to assess change, relevance of change, and sustainability of change 	<ul style="list-style-type: none"> • measurement of behavior change typically requires cooperation and skill of line-managers • Measures Skills
4	results	<ul style="list-style-type: none"> • results evaluation is the effect on the business or environment by the trainee 	<ul style="list-style-type: none"> • measures are already in place via normal management systems and reporting - the challenge is to relate to the trainee 	<ul style="list-style-type: none"> • individually not difficult; unlike whole organization • process must attributing clear accountabilities • Measures Outcomes

Limitations of traditional training models

Advantages of Simulation and Skills Mgmt.

- Training metrics limited to attendance
- Classroom training takes docs out of clinic.
- Need for continuous flow of training and information.
- Verbal/lecture training is difficult to retain (11%) and is limited to theory.
- Expense of travel and lodging.
- System creates detailed and quantitative assessment of impact on clinical skills and skill improvements over time.
- Allows for remote, self paced training – less expensive.
- Simulation trains physicians and nurses in a simulated, case based mode – theory + practice.
- Reduces need for travel and accommodation expenses.
- State of the Art
- Rigorous certification.

New Paradigm

- Innovative and Interactive:

Fully interactive and simulation enabled case-based tool. Model actual clinical experience.

- Engaging:

97% positive feedback and 3x industry standard completion rates for CBT (computer-based/on-line training)

- Measurable:

Tracks quantitative and detailed clinical performance metrics (such as medical error) in order to assess clinical skills baseline and improvement.

- Scalable:

Deployable over the Internet, laptops, CDs or kiosks. Enables continuous training. Updated quarterly.

PILOT STUDY

HIV EDUCATION USING CLINICAL CASE SIMULATION

Douglas D. Blevins, MD; David Hadden. TheraSim, Inc., RTP, NC.

Abstract accepted for presentation and defended at 2005 IDSA

Background: Clinical instructor-led training with printed material cannot deliver the volume and scale of training required to deal with the HIV pandemic. With most CME, evidence of learner behavior is difficult to assess/verify/quantify, and current web-based programs suffer from a lack of interactivity. Learners often prefer to try an activity and get immediate feedback about the perils of their choices. Pilots using simulators develop competence safely for numerous scenarios.

Methods: We analyzed the first 42 days of data from 1,410 sessions by 744 clinicians (56 countries – 17 African nations) using a new web-based EMR-model simulation instrument for treating 6 virtual HIV cases. The program uses guidelines from and provides links to DHHS, SA Guidelines, IDSA, CDC, WHO as well as package inserts, drug interaction databases, published articles and conference abstracts. Experienced clinicians oversee development. Warnings and advice are offered during the simulation, and a breakdown of these warnings with scores plus several paragraphs of remarks is provided at the end. Retrievable information: time for each section (intro, history, tests, orders, diagnosis, treatment); clicks/session; scores and types of alerts on diagnosis, treatment, prophylaxis, drug interactions, dosing; learner satisfaction.

PILOT STUDY

HIV EDUCATION USING CLINICAL CASE SIMULATION

Douglas D. Blevins, MD; David Hadden. TheraSim, Inc., RTP, NC.

Abstract accepted for presentation and defended at 2005 IDSA

Results:

1. Average duration/case: 16 minutes; if completed 1 case, 92% finished any started thereafter.
2. Deviations from guidelines: severe warnings/rejections: 12%;
3. Dosing errors 9% (dosing info readily available)
4. Resistance errors: 27%
5. Failed to use PCP prophylaxis when indicated: 30%
6. Did not start or continue ART when indicated (CD4 <200): 38%.
7. Among those completing a case, 97% were satisfied or very satisfied with the activity.

Conclusions: These internet-based clinical simulations provide a global reach and high clinician acceptance but reveal some discordance between guidelines and clinical choices.





